What is claimed is:

1. A fixing device that applies at least heat and a pressure to a recording material on which toner is carried in the form of an image pattern to form an unfixed toner image, and fixes the unfixed toner image on the recording material to obtain a toner image, the fixing device comprising:

a heating and temporarily fixing unit that applies at least heat to the unfixed toner image formed on the recording material to soften or melt the toner of the unfixed toner image into a state of being able to be deformed by an external force; and

an image gloss control unit that presses the toner, while the toner is maintained in the state of being able to be deformed by an external force, with a pressing surface to flow the toner, the pressing surface having a temperature adjusted to become lower than a temperature at which the toner can be deformed by an external force by the heating and temporarily fixing unit,

wherein the image gloss control unit includes a heating member that heats the pressing surface.

2. A fixing device according to claim 1, further comprising a temperature adjusting unit that controls the heat provided by the heating member to make a surface temperature of the pressing surface becomes equal to or higher than a predetermined temperature.

3. A fixing device according to claim 1, wherein:

the image gloss control unit includes at least one pair of rotating bodies adopted to be rotated while press-contacting each other to form a pressing nip portion; and

an outer peripheral surface of one of the one pair of rotating bodies serves as the pressing surface.

4. A fixing device according to claim 3, wherein the heating member is provided inside one of the one pair of rotating bodies.

5. A fixing device according to claim 3, wherein the image gloss control unit includes a cooling unit that maintains a surface temperature of the pressing surface at a level equal to or lower than a predetermined upper limit temperature.

6. A fixing device according to claim 5, further comprising a temperature adjusting unit that controls the heat provided by the heating member to adjust the surface temperature of the pressing surface to become equal to or higher than a predetermined temperature, and controls the cooling by the cooling unit to adjust the surface temperature of the pressing surface to become equal to or lower than a predetermined upper limit temperature.

7. A fixing device according to claim 3, wherein the rotating

body having the pressing surface of the at least one pair of rotating bodies comprises at least a base layer and a releasing layer.

8. A fixing device according to claim 7, further comprising an elastic body layer provided between the base layer and the releasing layer.

9. A fixing device according to claim 8, further comprising a surface hardness control layer provided between the elastic body and the releasing layer.

10. A fixing device according to claim 9, wherein an elastic modulus of a material that forms the surface hardness control layer is higher than an elastic modulus of each of materials that form the elastic layer and the releasing layer, respectively.

11. A fixing device according to claim 3, wherein the press-contact of the at least one pair of rotating bodies is releasable.

12. A fixing device according to claim 3, wherein a press-contact force of the at least one pair of rotating bodies is variable.

13. A fixing device according to claim 1, wherein a surface temperature of the toner after executing the processing therefor by the image gloss control unit is adjusted to become lower than the temperature at which the toner can be deformed by an external force.

14. A fixing device according to claim 1, wherein the heating and temporarily fixing unit is a unit that includes a heating rotating body and a pressing rotating body adapted to be rotated while press-contacting each other to form a fixing nip portion, and inserts the recording material having the unfixed toner image formed thereon into the fixing nip portion to soften or melt the toner of the unfixed toner image into the state of being able to be deformed by an external force.

15. A fixing device according to claim 14, wherein a pressure applied to the recording material in the image gloss control unit is higher than that in the heating and temporarily fixing unit.

16. A fixing device according to claim 1, further comprising a fixing condition control mechanism for controlling one of a heating time and a heating temperature in the heating and temporarily fixing unit in accordance with a kind of applied recording material.

17. A fixing device according to claim 1, wherein a heat insulating structure against the outside air is adopted between the heating and temporarily fixing unit and the image gloss control unit.

18. A fixing device according to claim 1, further comprising a heat holding device that holds heat between the heating and temporarily fixing unit and the image gloss control unit.

19. A fixing method of applying at least heat and a pressure to a recording material, on which toner is carried in the form of an image pattern to form an unfixed toner image, and fixing the unfixed toner image on the recording material to obtain a toner image, the fixing method comprising:

a heating and temporarily fixing process for applying at least heat to the unfixed toner image formed on the recording material to soften or melt the toner of the unfixed toner image into a state of being able to be deformed by an external force; and

an image gloss control process for pressing the toner, while the toner is maintained in the state of being able to be deformed by an external force, with a pressing surface to flow the toner, the pressing surface having a temperature adjusted to become lower than a temperature at which the toner can be deformed by an external force through the heating and temporarily fixing process,

wherein in the image gloss control process, the pressing surface is heated while being controlled to have a temperature equal to or higher than a predetermined temperature.

20. A fixing method according to claim 19, wherein the image gloss control process is a process for inserting the recording material having the unfixed toner image of the toner, which is maintained in a state of being able to be deformed by an external force, into a pressing nip portion of at least one pair of rotating bodies adapted to be rotated while press-contacting each other to form the pressing nip portion, and pressing the toner with a peripheral surface, as the pressing surface, of one of the one pair of rotating bodies to flow the toner.

21. A fixing method according to claim 20, wherein in the image gloss control process, surface temperatures of the at least one of rotating bodies are maintained equal to or lower than a predetermined upper limit temperature.

22. A fixing method according to claim 20, wherein a press-contact force of the at least one of rotating bodies is made variable in accordance with a desired degree of image gloss.

23. A fixing method according to claim 19, wherein a surface

temperature of the toner after executing the image gloss control process is adjusted to become lower than the temperature at which the toner can be deformed by an external force.

24. A fixing method according to claim 19, wherein the heating and temporarily fixing process is a process for inserting the recording material having the unfixed toner image formed thereon into a fixing nip portion of a heating rotating body and a pressing rotating body adapted to be rotated while press-contacting each other to form the fixing nip portion, and softening or melting the toner of the unfixed toner image into the state of being able to be deformed by an external force.

25. A fixing method according to claim 24, wherein a pressure applied to the recording material in the image gloss control process is higher than that in the heating and temporarily fixing process.

26. A fixing method according to claim 19, wherein one of a heating time and a heating temperature in the heating and temporarily fixing process is controlled in accordance with a kind of applied recording material.

27. A fixing method according to claim 19, wherein during processes from the heating and temporarily fixing process to the

image gloss control process, the heat of the recording material on which the unfixed toner image of the toner in a softening or melting state is formed is held.

28. An image forming apparatus including at least: an unfixed toner image forming unit that makes a surface of a recording material carry toner in the form of an image pattern to form an unfixed toner image; and a fixing unit that heats and presses the unfixed toner image carried on the surface of the recording material to fix the toner,

wherein the fixing unit is the fixing device as claimed in claim 1.

29. An image forming apparatus according to claim 28, wherein the unfixed toner image forming unit is a unit that forms an unfixed toner image by an electrophotographic system.